

Application Number 10/807,821

Amendment in response to Office Action mailed October 4, 2007

RECEIVED  
CENTRAL FAX CENTER

FEB 01 2008

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

Claims 1-9 (Canceled).

Claim 10 (Currently amended): A method to fabricate a holographic data storage medium comprising:

aligning a cavity such that an upper flat and a lower flat of the cavity are substantially parallel;

mixing at least a first component and a second component to create a multi-chemistry holographic formulation using a mixer comprising a first stage including a first set of mixing elements that mixes the first and second components and a second stage including a second set of mixing elements that further mixes the first and second components, wherein the mixing elements in the first stage are larger than the mixing elements in the second stage; and

dispensing the multi-chemistry holographic formulation between two substrates inside the cavity using a dispense nozzle, wherein the dispense nozzle receives the multi-chemistry holographic formulation from the mixer and dispenses the multi-chemistry holographic formulation through one of the flats and through a hole formed in one of the substrates to dispense the multi-chemistry holographic formulation between the two substrates, wherein outer surfaces of the two substrates are held to a substantially parallel position inside the cavity by the substantially parallel upper and lower flats; and

curing the multi-chemistry holographic formulation when the two substrates are held to the substantially parallel position inside the cavity to form the holographic data storage medium.

Application Number 10/807,821

Amendment in response to Office Action mailed October 4, 2007

Claim 11 (Original): The method of claim 10, wherein the mixer comprises a third stage including a third set of mixing elements, wherein the mixing elements in the second stage are larger than the mixing elements in the third stage.

Claim 12 (Original): The method of claim 11, wherein the mixer comprises a fourth stage including a fourth set of mixing elements, wherein the mixing elements in the third stage are larger than the mixing elements in the fourth stage.

Claim 13 (Original): The method of claim 11, wherein the first and second and third stages comprise static mixing elements.

Claim 14 (Currently amended): The method of claim 10, wherein the dispense nozzle is coated with boron oxide to reduce adhesion of the multi-chemistry holographic formulation to the dispense nozzle.

Claim 15 (Currently amended): The method of claim 10, wherein aligning the cavity comprises further comprising pre-aligning the flats of the a-cavity prior to the two substrates being placed into the cavity, wherein to hold the two substrates are held such that parallelism of the medium is achieved to within one optical fringe when, wherein the multi-chemistry holographic formulation is dispensed between the two substrates forcing the two substrates against the pre-aligned flats of the cavity.

Claim 16 (Original): The method of claim 10, wherein aligning the cavity comprises further comprising dynamically controlling the a-cavity such that when the multi-chemistry holographic formulation is dispensed between the two substrates the cavity is dynamically aligned adjusted to ensure parallelism of the medium to within one optical fringe.

Claim 17 (Canceled).

Application Number 10/807,821

Amendment in response to Office Action mailed October 4, 2007

Claim 18 (Currently amended): The method of claim 10, wherein the multi-chemistry holographic formulation includes a photoinitiator, a ~~write monomer~~ and a photosensitive dye, the method further comprising curing the multi-chemistry holographic formulation using radiation of a wavelength, wherein the ~~substantially sensitive to the~~ photosensitive dye is substantially sensitive to the radiation at the wavelength and ~~substantially insensitive to the photoinitiator and the ~~write monomer~~ are substantially insensitive to the radiation at the wavelength.~~

Claim 19 (Currently amended): The method of claim 10, further comprising sealing a perimeter of the holographic data storage medium by illuminating the perimeter of the medium with ultraviolet radiation to create an environmental barrier at the perimeter of the medium.

Claim 20 (Currently amended): The method of claim 10, further comprising curing a hub onto a center hole of the medium wherein the center hole of the medium corresponds to the hole formed in at least one of the substrates.